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Notice of Allowability	Application No.	Applicant(s)	
	10/808,099	ERLINGSSON, ULFAR	
	Examiner	Art Unit	
	Paul Kim	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 18 October 2007.
2. ☒ The allowed claim(s) is/are 1-4, 15-19 and 30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

DETAILED ACTION

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jerome G. Schaefer on 8 November 2007.

2. The claims has been amended as follows:

- a. Claim 1

A method of recovering an application using a timeline-based computing environment, the method comprising the steps of:

periodically saving data items of the application for recovery, wherein the saved data items allow the recovery of the application at a point in time when the items were saved;

searching a time-based archive of the saved data items;

designating a point in time from which to recover the application;

displaying saved data items that were saved at the designated point in time and recovering the application using the data items saved at the displayed designated point in time;

wherein periodically saving data items further comprises the steps of:

making a first determination of whether the application is of a type that saves a consistent working file without receiving a quit request;

observing the application and capturing the consistent working file if when the first determination is true;

if when the first determination is not true, making a second determination of whether the application is of a type that saves a consistent recovery file without receiving a quit request but must receive a quite quit request in order to save a consistent working file;

if when the second determination is true, observing the application for any recovery file that is saved and capturing the saved recovery file;

capturing a mapping between the captured recovery file and the consistent working file;

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if when the second determination is not true, making a third determination of whether the application must receive a quit request before saving a consistent working file;
if when the third determination is true, creating a clone of the application;
sending a quit command to the clone of the application to initiate a save file command; and
capturing any saved files responsive to the save file command;
when the third determination is not true, running a virtual machine;
executing the application in the virtual machine; and
capturing the state of the virtual machine at the point in time.

b. Claims 16

A computer-readable medium having thereon computer-executable instructions for recovering an application using a timeline-based computing environment, the instructions for performing steps comprising:
periodically saving data items of the application for recovery, wherein the saved data items allow the recovery of the application at a point in time when the items were saved;
searching a time-based archive of the saved data items;
designating a point in time from which to recover the application;
displaying saved data items that were saved at the designated point in time and recovering
the application using the data items saved at the displayed designated point in time;
wherein periodically saving data items further comprises the steps of:
making a first determination of whether the application is of a type that saves a consistent working file without receiving a quit request;
observing the application and capturing the consistent working file if when the first determination is true;
if when the first determination is not true, making a second determination of whether the application is of a type that saves a consistent recovery file without receiving a quit request but must receive a quite quit request in order to save a consistent working file;
if when the second determination is true, observing the application for any recovery file that is saved and capturing the saved recovery file;
capturing a mapping between the captured recovery file and the consistent working file;

Art Unit: 2161

if when the second determination is not true, making a third determination of whether the application must receive a quit request before saving a consistent working file;
if when the third determination is true, creating a clone of the application;
sending a quit command to the clone of the application to initiate a save file command; and
capturing any saved files responsive to the save file command;
when the third determination is not true, running a virtual machine;
executing the application in the virtual machine; and
capturing the state of the virtual machine at the point in time.

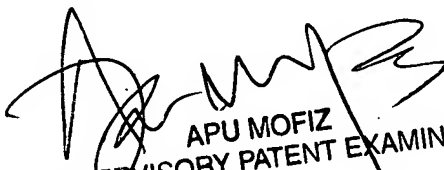
Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Kim
Patent Examiner, Art Unit 2161
TECH Center 2100


APU MOFIZ
SUPERVISORY PATENT EXAMINER